Advanced Approach to Concept and Design Studies for Space Missions.

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Abstract

Recent automated and advanced techniques developed at JPL have created a streamlined and fast-track approach to initial mission conceptualization and system architecture design, answering the need for rapid turnaround of trade studies for potential PIs, and mission and instrument study groups. JPL has assembled a team of multidisciplinary experts with corporate knowledge of space mission and instrument development. The Advanced Concept Design Team, known as Team X, provides interactive design trades including cost as a design parameter and advanced visualization for pre-phase A studies. The proposer and Team X collaborate closely in developing scenarios, and Team X responds with a detailed integrated mission/instrument design and development plan in 1- 2 weeks. Iteration of the plan is on a similar rapid turnaround basis. JPL has experience planning more than 250 missions, including pointed and survey astrophysics missions such as the UV mission GALEX, as well as SIM, IRAS, SIRTF, and WIRE.

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